UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,093	04/06/2001	Tetsuji Mitsumoto	4296-135 US	5491

7590 05/18/2006

MATHEWS, COLLINS, SHEPHERD & GOULD, P.A.
100 THANET CIRCLE, SUITE 306
PRINCETON, NJ 08540

EXAMINER	
MANOHARAN, VIRGINIA	
ART UNIT	PAPER NUMBER
1764	

DATE MAILED: 05/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/828,093	MITSUMOTO ET AL.	
	Examiner	Art Unit	
	Virginia Manoharan	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-10,12-17 and 19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-10,12-17 and 19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The drawings were received on July 18, 2005. These drawings are approved.

[The Patent and Trademark Office no longer makes drawing changes. See 1017 O.G. 4. It is applicant's responsibility to ensure that the drawings are corrected].

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4-8, 10, 12-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al (6,214,174) with or without Nutter (4,304,738).

The above references are applied for the same reasons as set forth at page 3 of the previous Office Action.

Claim 9 is rejected under 35 U.S.C. 103(a) as obvious over Matsumoto et al (6,214,174) in view of Binkley et al (5,164,125).

Binkley is applied for the same reason as set forth at the first paragraph, page 4 of the previous Office action.

Applicants' arguments filed January 9, 2006 have been fully considered but they are not persuasive.

Applicants' arguments such as : ".... There is no teaching or suggestion of providing liquid passing opening to a joint part between the support ring and the inner wall.Comparing the opening of Matsumoto '174 with the liquid passing opening of the present claim 1, there is difference of the placement of the openings. Further, claim 1 includes the limitation of a vertical clamp which is not taught or suggested in Matsumoto '174.." are not persuasive of patentability because of the following reasons:

While Matsumoto et al did not specifically mention the argued liquid passing openings in the joint part between the support ring and the inner wall, however, Matsumoto's disclosure at col. 4, lines 47-56 would at least be suggestive of the above argued limitations. That is, Matsumoto's suggestion that the liquid hole 8 forming at least a position such that the tray 1 does not cover the whole part of the liquid hole 8 allowing the liquid to smoothly flow down from surfaces of the tray 1 and the tray supporting member..." would presupposed positioning the liquid openings at least where effective results are obtained. Regarding the argued difference in placement of openings, it is noteworthy that the test of obviousness should not be limited to the specific structure shown by the references, but should be into the concepts fairly contained therein, and whether those concepts would suggest to one skilled in the art the modifications called for by the claims.." In re Bozek, 163 USPQ 545; In re Beckum, 169 USPQ 47.

The concept of positioning liquid openings between a support member and inner wall of a distillation column is known in a field where the nature of the problem being solved is the same in the present invention and in the prior art, i.e., preventing and/or eliminating the polymerization of easily polymerizable compounds during distillation . The problem of polymerization is recognized in the art and does not appear to be subtle as to have eluded observation by one of ordinary skill in the art.

Moreover, whether the argued clamp is vertical as claimed, or horizontal as in Matsumoto '174, is of no patentable moment. The same art- recognized functions are achieved, either way. Furthermore, Matsumoto, not Nutter as argued, was cited to suggest the liquid passing openings provided to a joint part between the support ring and the inner wall of the column for preventing polymerization on the inner wall of the distillation column. Nutter was applied to teach that the claimed dual flow tray is not an unobvious subject matter nor is it evidence of criticality in the art. Likewise, Matsumoto and Nutter, not Binkley as further argued, was cited to teach or suggest a dualflow tray. Matsumoto's trays are perforated trays operating in a countercurrent vapor-liquid flow regime without downcomers. See Nutter's definition of a dual flow tray at column 6, lines 27-38. In addition, Binkley's splash deflector is deemed to correspond to the claimed splash collision plate, i.e., a dualflow tray or a disc-and-doughnut type collision plate, at least in function. See e.g., col. 12, lines 10-23. The plate of Binkley is deemed also to have openings in the range of 10% to 90% relative to a cross section of the column as broadly claimed, especially since the cross section of the column has not been defined. Nonetheless, the claimed range(s) is deemed to be a result –effective variable which ordinarily is within the skilled of the art. As evidence, note col.7, lines 1-11 of the Nutter's reference.

Furthermore, applicants' references e.g., to page 15, lines 1 1-15 of the specification as not being taught nor suggested in Binkley et al. is not considered well-taken. One

cannot read limitations that are described in the specification but are not imported into the claims.

> Absolute predictability is not a prerequisite for obviousness rejection. All that is required to show obviousness is that the applicant make his claimed invention merely by applying knowledge clearly present in the prior art. Section 103 requires us to presume full knowledge by the inventor of the prior art in the filed of his endeavor. See In re Winslow, 53 CCPA 1574, 1578, 365 F.2d 1017, 1020, 151 USPQ 48, 50-51 (1966). No commercial success is claimed, nor is any other factor indicating nonobviousness shown to exist].

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Combining the subject matter of claims 1 and 10 would place the case in condition for allowance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia Manoharan whose telephone number is 571-272-1450.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VIRGINIA MANOHARAN
PRIMARY EXAMINER
ART UNIT 1764

5/13/06